

ABSTRACT

A catalyst composition and method of use of the catalyst composition for producing single-walled carbon nanotubes (SWNTs). The catalyst is cobalt (Co) and molybdenum (Mo) on a silica support. The Mo occurs primarily as dispersed Mo oxide clusters on the support while the Co is primarily in an octahedral configuration in a CoMoO_4 -like phase disposed on the Mo oxide clusters. In the method, the catalyst is used and the process conditions manipulated in such a manner as to enable the diameters of the SWNTs to be substantially controlled.